

Applicants: Ann Marie Rodriguez, et al.  
Serial No.: 10/632,581  
Filed : July 31, 2003  
Page 4

**Amendment to the claims:**

The following listing of claims will replace all prior versions, and listings, of claims in this application.

**Listing of claims:**

1. (currently amended) An isolated adult multipotent human stem cell ~~[[,]] characterized in that it has comprising:~~
  - i) significant telomerase activity of at least 20% to 50% of the telomerase activity of the HEK293T transformed cell line,
  - ii) an HLA Class I negative phenotype,
  - iii) a normal karyotype,
  - iv) a capacity to become quiescent, and
  - v) a capacity for self-renewal preserved for at least 130 population doublings.
2. (currently amended) The stem cell according to claim 1, ~~characterized in that it~~ wherein the stem cell has a self-renewal capacity preserved for at least 200 population doublings.
3. (currently amended) The stem cell according to claim 1 or claim 2, ~~characterized in that it~~ wherein the stem cell can be isolated from human adipose tissue.
4. (currently amended) The stem cell ~~according to any one of the preceding claims~~ of claim 3, characterized in that it wherein the stem cell can differentiate into a cell of

endodermal, ectodermal or mesodermal origin.

5. (currently amended) ~~The stem cell according to~~ of claim 4, ~~characterized in that it~~ wherein the stem cell is capable of differentiating into an adipocyte, osteoblast, myocyte, chondrocyte or endothelial cell.
6. (currently amended) ~~The stem cell according to any one of the preceding claims of claim 5, characterized in that it~~ wherein the stem cell has a telomerase activity corresponding to at least 20% of the telomerase activity of a reference cell line.
7. (currently amended) ~~The stem cell according to any one of the preceding claims of claim 6, characterized in that it~~ wherein the stem cell expresses the transcription factor Oct-4 and/or Rex-1.
8. (cancelled)
9. (currently amended) A cell population comprising a plurality of cells ~~according to~~ as in any one of claims 1, ~~[[or]] 51 [[to 54]] and 53, characterized in that it~~ wherein the cell population is free of adipocytes, fibroblasts, preadipocytes, endothelial cells, pericytes, mastocytes, and smooth muscle cells.
10. (currently amended) ~~The cell population according to~~ of claim 9, ~~characterized in that it~~ wherein the cell

Applicants: Ann Marie Rodriguez, et al.  
Serial No.: 10/632,581  
Filed : July 31, 2003  
Page 6

population is clonal.

11. (currently amended) The cell population according to ~~any one of~~ claims 9 or ~~claim~~ 10, ~~characterized in that it~~ wherein the cell population becomes quiescent after about 60 population doublings.
12. (currently amended) The cell population ~~according to of~~ claim 11, ~~characterized in that it~~ wherein the cell population is capable of proliferating in the presence of growth factors such as basic fibroblast growth factor (bFGF), PDGF, EGF, NGF, SCF.
13. - 24. (cancelled)
25. (currently amended) Stem cells obtainable by carrying out the method ~~according to any one of claims~~ claim 13 [[to 24]].
26. (currently amended) Stem cells according to ~~any one of~~ claims 1 [[to 12]] or 25, for use in therapy.
27. (currently amended) Stem cells ~~according to of~~ claim 26, ~~characterized in that~~ wherein the therapy comprises transplantation of cells into an individual, followed by cell differentiation and tissue regeneration in vivo.
28. (currently amended) Stem cells ~~according to of~~ claim 26, ~~characterized in that~~ wherein transplantation is allogenic.

Applicants: Ann Marie Rodriguez, et al.  
Serial No.: 10/632,581  
Filed : July 31, 2003  
Page 7

29. - 47. (cancelled)

48. (currently amended) A pharmaceutical composition comprising a plurality of cells according to ~~any one of~~ claims 1 [[to 13]] or 25, ~~in association with~~ and a physiologically acceptable excipient.

49. (currently amended) An isolated adult multipotent human cell, termed a "CS" cell, ~~characterized in that~~ wherein the cell:

- i) [[it]] has an HLA Class I negative phenotype,
- ii) [[it]] has a normal karyotype,
- iii) [[it]] has a self-renewal capacity that is preserved for about 40 to 60 population doublings,
- iv) [[it]] is not capable of becoming quiescent, and
- v) [[its]] has a proliferation rate which is not affected by LIF.

50. (currently amended) [[A]] An isolated multipotent human cell population termed a "CS" population comprising a plurality of cells according to claim 49.

51. (currently amended) The stem cell ~~according to any one of claims claim 1~~ [[to 8]], ~~characterized in that it~~ wherein the cell has the following phenotype:

- HLA class I negative;
- HLA class II negative;
- CD3 negative;

Applicants: Ann Marie Rodriguez, et al.  
Serial No.: 10/632,581  
Filed : July 31, 2003  
Page 8

CD13 positive;

52. (currently amended) The stem cell according to ~~any one of~~ claims 1 [[to 8]] or 51, ~~characterized in that it~~ wherein the cell has a CD13 positive phenotype in the presence of 10% foetal calf serum.

53. (currently amended) An isolated adult multipotent human stem cell, characterized in that after reaching quiescence, it stably exhibits the following phenotype in vitro:

HLA class I negative,  
HLA class II negative,  
CD3 negative,  
CD13 positive,  
LIF-R negative,  
Oct-4 positive,  
Rex-1 positive,  
ABCG2 positive,

and in that it has a normal karyotype and significant telomerase activity of at least 20% to 50% of the telomerase activity of the HEK293T transformed cell line.

54. (currently amended) The cell ~~according to~~ of claim 53, ~~characterized in that it~~ wherein the cell has immunoprivileged behavior in vivo and a capacity to migrate in the undifferentiated state.